## CLAIMS

**What is claimed is:**

1    1.      A method of operating a proxy server, the method comprising:

2          receiving an initial request from a user device during a current session

3    between the user device and the proxy server;

4          terminating the current session if the initial request is to a secure server;

5    and

6          establishing a tunnel, through the proxy server, between the user device

7    and the secure server, via a trusted domain proxy/firewall, upon receipt of a

8    further request from the user device to access the secure server if the initial

9    request is to a secure server.


1    2.      The method of claim 1, further comprising determining whether the initial

2    request is to a destination address of a secure server.


1    3.      The method of claim 2 wherein determining whether the initial request is to

2    a destination address of a secure server comprises finding a match of the

3    destination address of the secure server in a pre-provisioned list of secure

4    servers in the proxy server.

1    4.    The method of claim 2 wherein determining whether the initial request is to

2    a destination address of a secure server comprises forwarding the request to a

3    non-secure server associated with the destination address and receiving an error

4    message in response thereto, which message is indicative that the destination

5    address is that of a secure server.


1    5.    The method of claim 1 further comprising waiting a predetermined period

2    for the further request.


1    6.    The method of claim 1 wherein establishing the tunnel comprises storing

2    state information in order to identify the further request as being associated with

3    the initial request.


1    7.    The method of claim 1 wherein terminating the current session comprises

2    sending an error message to the user device which causes the user device to

3    send the further request to the proxy server.


1    8.    The method of claim 7 wherein the error message is a standard error

2    message in a protocol supported by the user device.


1    9.    The method of claim 1 wherein establishing the tunnel comprises opening

2    a socket with the trusted domain proxy/firewall and mapping the socket to an

3    inbound socket opened with the user device upon receipt of the further request.

1    10.    The method of claim 1 further comprising establishing a time-to-live

2    default for the tunnel, beyond which time the tunnel is terminated.


1    11.    The method of claim 1 which comprises terminating the tunnel upon the

2    occurrence of a predetermined event.


1    12.    The method of claim 11 wherein the predetermined event comprises

2    receiving a request from the user device to access a server other than the secure

3    server.


1    13.    The method of claim 11 wherein the predetermined event comprises  the

2    termination of the session between the user device and the trusted domain

3    proxy/firewall at the instance of the trusted domain proxy/firewall.


1    14.    A machine readable program storage medium, having code stored therein,

2    which when executed on a proxy server causes the proxy server to perform a

3    method comprising

4          receiving an initial request from a user device during a current session

5    between a user device and the proxy server;

6          terminating the current session if the initial request is to a secure server;

7    and

8          establishing a tunnel, through the proxy server, between the user device

9    and the secure server, via a trusted domain proxy/firewall, upon receipt of a

10    further request from the user device to access the secure server if the initial

11    request is to a secure server.


1     15.    The machine readable program storage medium of claim 14, wherein the

2     method comprises determining whether the initial request is to a destination

3     address of a secure server.


1     16.    The machine readable program storage medium of claim 15, wherein

2     determining whether the initial request is to a destination address of a secure

3     server, comprises finding a match of the destination address in a pre-provisioned

4     list of secure servers in the proxy.


1     17.    The machine readable program storage medium of claim 16, wherein

2     determining whether the initial request is to a destination address of a secure

3     server comprises forwarding the request to a non-secure server associated with

4     the destination address and receiving an error message in response thereto,

5     which message is indicative that the destination address is that of a secure

6     server.


1     18.    The machine readable program storage medium of claim 14, wherein the

2     method further comprises waiting a predetermined period for the further request.

1  19.   The machine readable program storage medium of claim 14, wherein

2  establishing the tunnel comprises storing state information in order to identify the

3  further request as being associated with the initial request.


1  20.   The machine readable program storage medium of claim 14, wherein

2  terminating the current session comprises sending an error message to the user

3  device which causes the user device to send the further request to the proxy

4  server.


1  21.   The machine readable program storage medium of claim 20, wherein the

2  error message is a standard error message in a protocol supported by the user

3  device.


1  22.   The machine readable program storage medium of claim 14, wherein

2  establishing the tunnel comprises opening a socket with the trusted domain

3  proxy/firewall and mapping the socket to an inbound socket opened with the user

4  device upon receipt of the further request.


1  23.   The machine readable program storage medium of claim 14, wherein the

2  method further comprises establishing a time-to-live default for the tunnel,

3  beyond which time the tunnel is terminated.

1  24.    The machine readable program storage medium of claim 14, wherein the

2  method comprises terminating the tunnel upon the occurrence of a

3  predetermined event.


1  25.    The machine readable program storage medium of claim 24, wherein the

2  predetermined event comprises receiving a request from the user device to

3  access a server other than the secure server.


1  26.    The machine readable program storage medium of claim 24, wherein the

2  predetermined event comprises the termination of the session between the user

3  device and the trusted domain proxy/firewall at the instance of the trusted domain

4  proxy/firewall.


1  27.    A proxy server comprising:

2        a processor; and

3        a memory device, having stored therein a code, which when executed by

4  the processor, causes the proxy server to :

5            receive an initial request from a user device during a current

6  session between the user device and the proxy server;

7            terminate the current session if the initial request is to a secure

8  server; and

9            establish a tunnel, through the proxy server, between the user

10  device and the secure server, via a trusted domain proxy/firewall, upon receipt of

11    a further request from the user device to access the secure server if the initial

12    request is to a secure server.

1    28.    The proxy server of claim 27, wherein the code comprises instructions to

2    determine whether the initial request is to a destination address of a secure

3    server.

1    29.    The proxy server of claim 28, wherein determining whether the initial

2    request is to a destination address of a secure server comprises finding a match

3    of the destination address of the secure server in a pre-provisioned list of secure

4    servers in the proxy server.

1    30.    The proxy server of claim 29, wherein determining whether the initial

2    request is to a destination address of a secure server comprises forwarding the

3    request to a non-secure server associated with the destination address and

4    receiving an error message in response thereto, which message is indicative that

5    the destination address server is that of a secure server.

1    31.    The method of claim 28, wherein the code further comprises instructions

2    for waiting a predetermined period for the further request.

1  32.  The proxy server of claim 28, wherein establishing the tunnel comprises

2  storing state information in order to identify the further request as being

3  associated with the initial request.


1  33.  The proxy server of claim 28, wherein terminating the current session

2  comprises sending an error message to the user device which causes the user

3  device to send the further request to the proxy server.


1  34.  The method of claim 33, wherein the error message is a standard error

2  message in a protocol supported by the user device.


1  35.  The proxy server of claim 28, wherein establishing the tunnel comprises

2  opening a first socket with the trusted domain proxy/firewall and mapping the

3  socket to an inbound socket opened with the user device upon receipt of the

4  further request.


1  36.  The proxy server of claim 28, wherein the code further comprises

2  instructions to establish a time-to-live default for the tunnel, beyond which time

3  the tunnel is terminated.


1  37.  The proxy server of claim 1, wherein the code further comprises

2  instructions to terminate the tunnel upon the occurrence of a predetermined

3  event.

1    38.    The proxy server of claim 37, wherein the predetermined event comprises

2    receiving a request from the user device to access a server other than the secure

3    server.


1    39.    The proxy server of claim 38, wherein the predetermined event comprises

2    the termination of a session between the user device and the trusted domain

3    proxy/firewall at the instance of the trusted domain proxy/firewall.


1    40.    A proxy server comprising:

2    means for receiving an initial request from a user device during a current

3    session between the user device and the proxy server;

4    means for terminating the current session if the initial request is to a

5    secure server; and

6    means for establishing a tunnel, through the proxy server, between the

7    user device and the secure server, via a trusted domain proxy/firewall, upon

8    receipt of a further request from the user device to access the secure server.


1    41.    A method of operating a proxy server, the method comprising

2    receiving an initial request from a user device during a current session

3    between the user device and the proxy server;

4    determining whether the initial request is to a secure server;

5    terminating the current session between the user device and the proxy

6    server if the initial request is to a secure server, the current session being

7    terminated with a standard error message in a protocol understood by the user

8    device which message causes the user device upon receipt of the error message

9    to re-send the request to the proxy server; and

10       upon receipt of the re-sent request within a predetermined time, opening a

11   socket  with the trusted domain proxy/firewall and mapping the socket with an

12   inbound socket opened between the proxy server and the user device.